REMARKS

INTRODUCTION

In accordance with the following, reconsideration of the allowability of the pending claims is respectfully requested.

Claims 1-14 are pending and under consideration, with claims 1-9 and 11-14 having been indicated as including allowable subject matter.

REJECTION UNDER 35 USC 102

Claims 1 and 10 stand rejected under 35 USC 102(e) as being anticipated by Shake et al., U.S. Patent No. 6,587,242. This rejection is respectfully traversed.

The Office Action sets forth that the outstanding rejection rationale is based upon a belief that "Shake extends the waveform in the time axis but a pulse is necessarily broadened [in] the frequency domain because additional harmonics are captured [in] the frequency domain."

However, it is respectfully submitted that this conclusion is incorrect.

It is respectfully submitted that it is well known in the current field that, in the case of an analytically calculable Gaussian pulse, widening of the range of a pulse generally results in the narrowing of its Fourier-transformed spectrum in the frequency domain.

For example, a continuous pulse, e.g., a continuous f(t)=1, in the time domain transforms into a narrow delta ($f(\omega)=\delta(\omega)$) function in the frequency domain.

Conversely, narrowing of the range of a pulse results in the widening of its Fourier-transformed spectrum in the frequency domain.

Here, as another example, the Fourier-transform of a delta ($f(t)=\delta(t)$) function, e.g., a spike or extremely short pulse or step, in the time domain transforms to a 1 in the frequency domain, e.g., the frequency domain transform is a continuous function ($f(\omega)=1$).

The widening or narrowing within the Frequency domain is not typically related to any harmonics that may also be available, as these harmonics are typically filtered out or because they will not affect the underlying operation. The focus is on the primary transform.

Accordingly, regardless of the occurrences of any additional harmonics, if the outstanding rejection is based upon a conclusion that Shake et al. must be interpreted as

widening the Fourier transformed spectrum in the frequency domain for a widened or extended waveform, then the outstanding rejection rationale is incorrect.

Respectfully, if Shake et al. is interpreted as widening or extending a waveform in the time axis, then Shake et al. must actually be interpreted as ***narrowing*** its Fourier-transformed spectrum in the frequency domain.

Thus, Shake et al. at least fails to disclose the claimed extending or widening of the spectrum of the claimed optical pulse.

Therefore, in view of the at least the above, withdrawal of this rejection of claims 1 and 10 is respectfully requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.
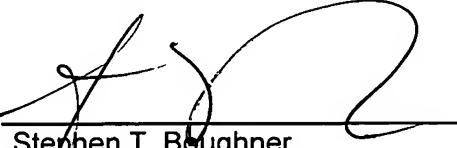
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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